

SEQUENCE LISTING

<110> Merot, Bertrand
 Dieryck, Wilfrid
 Lenée, Philippe
 Marden, Michael
 Gruber, Veronique
 Pagnier, Renee-Josee
 Baudino, Sylvie
 Poyart, Claude

<120> METHOD FOR PRODUCING HAEMIN PROTEINS USING PLANT CELLS,
 RESULTING PROTEINS AND PRODUCTS CONTAINING SAME

<130> 8076.147USWO

<140> 08/983,564

<141> 1998-06-09

<150> PCT/FR96/01123

<151> 1996-07-17

<150> 95/08615

<151> 1995-07-17

<160> 33

<170> PatentIn Ver. 2.1

<210> 1

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
 pBIOC21

<400> 1

agctgattaa ttaaggcgcg ccacgcgtta ac

32

<210> 2

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
pBIOC21

<400> 2

aattgttaac gcgtggcgcg ccttaattaa tc

32

<210> 3

<211> 34

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Homo sapiens

<400> 3

tacaagctta acaatggtgc tgtctccggc cgac

34

<210> 4

<211> 21

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Homo sapiens

<400> 4

cggtgccacc cggagcttgt g

21

<210> 5

<211> 21

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Homo sapiens

<400> 5

cacaagctcc gggcggaccc g

21

<210> 6

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Homo sapiens

<400> 6

tcaacggtat ttggaggtca gcac

24

<210> 7

<211> 52

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Homo sapiens

<400> 7

gtcattaatt aacaatggtg cacctgactc ctgaggagaa gtcggccggt ac

52

<210> 8

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Homo sapiens

<400> 8

aatgagctcg ttaacqcggt tagtgatact tgtgggccag ggc

43

<210> 9

<211> 162

<212> DNA

<213> Nicotiana plumbaginifolia

<400> 9

atggcttctc ggaggcttct cgctctctc ctccgtcaat cggctcaacg tggcggcggt 60
ctaatttccc gatcgtagg aaactccatc cctaaatccg cttcacgcgc ctcttcacgc 120
gcatccccta agggattcct cttaaaccgc gccgtacagt ac 162

<210> 10

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Nicotiana
plumbaginifolia

<400> 10

cgcaagctta acaatggctt ctcggaggct tctc

34

<210> 11

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Nicotiana plumbaginifolia and Homo sapiens

<400> 11

tagaattcgg ccggagacag cacgtactgt acggcgcggt ttaag

45

<210> 12

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Nicotiana
plumbaginifolia

<400> 12

gtcattaatt aacaatggct tctcggaggc ttctgcctc tc

42

<210> 13

<211> 61

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Nicotiana plumbaginifolia and Homo sapiens

<400> 13

aatgagctcg gccgacttct cctcaggagt caggtgcacg tactgtacgg cgcggtttaa 60
g 61

<210> 14

<211> 171
<212> DNA
<213> Pisum sativum

<400> 14
atggcttcta tgatatactc ttcagctgtg actacagtca gccgtgcttc tacggtgcaa 60
tcggccgcgg tggctccatt cggcggcctc aaatccatga ctggattccc agttaagaag 120
gtcaacactg acattacttc cattacaagc aatggtggaa gagtaaagtg c 171

<210> 15
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Pisum sativum

<400> 15
cgcaagctta acaatggctt ctatgatatc ctcttcagc 39

<210> 16
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
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Pisum sativum and Homo sapiens

<400> 16
tagaattcgg ccggagacag cacgcacttt actcttccac cattgc 46

<210> 17
<211> 44
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Pisum sativum

<400> 17
gtcattaatt aacaatggct tctatgatat cctcttcagc tgtg 44

<210> 18

<211> 57
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Pisum sativum and Homo sapiens

<400> 18
aatgagctcg gccgacttct cctcaggagt caggtgcacg cactttactc ttccacc 57

<210> 19
<211> 69
<212> DNA
<213> Ipomoea batatas

<400> 19
atgaaagcct tcacactcgc tctcttctta gctctttccc tctatctcct gcccaatcca 60
gccattcc 69

<210> 20
<211> 33
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Ipomoea
batatas

<400> 20
cgcaagctta acaatgaaag ccttcacact cgc 33

<210> 21
<211> 45
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Ipomoea batatas and Homo sapiens

<400> 21
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<210> 22
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Ipomoea
batatas

<400> 22
gtcattaatt aacaatgaaa gccttcacac tcgc 34

<210> 23
<211> 61
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic:
Ipomoea batatas and Homo sapiens

<400> 23
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g 61

<210> 24
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 24
aaagatgagc ta 12

<210> 25
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Homo sapiens

<400> 25

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44

<210> 26

<211> 55

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Homo sapiens

<400> 26

aatgagctcg ttaacgcgtt tatagctcat cttgtgata cttgtgggcc agggc 55

<210> 27

<211> 111

<212> DNA

<213> Ipomoea batatas

<400> 27

atgaaagcct tcacactcgc tctcttctta gctctttccc tctatctcct gcccaatcca 60
gcccatcca ggttcaatcc catccgctc cccaccacac acgaaccgc c 111

<210> 28

<211> 43

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Ipomea batatas and Homo sapiens

<400> 28

tagaattcgg ccggagacag cacggcgggt tcgtgtgtgg ttg 43

<210> 29

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic:
Ipomea batatas and Homo sapiens

<400> 29

aatgagctcg gccgacttct cctcaggagt caggtgcacg gcgggttcgt gtgtggttg 59

<210> 30

<211> 423

<212> DNA

<213> Homo sapiens

<400> 30

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gctggcgagt atggtgcgga ggccctggag aggatgttcc tgtccttccc caccaccaag 120
acctaattcc cgcacttcga cctgagccac ggctctgccc aggttaaggg ccacggcaag 180
aaggtggccg acgcgtgac caacgccgtg gcgcacgtgg acgacatgcc caacgcgctg 240
tccgccctga gcgacctgca cgcgcacaag cttcggtggg acccggtcaa cttcaagctc 300
ctaagccact gcctgctggt gaccctggcc gcccaacctcc ccgccgagtt caccctgcg 360
gtgcacgcct ccctggacaa gttcctggct tctgtgagca ccgtgctgac ctccaaatac 420
cgt 423

<210> 31

<211> 141

<212> PRT

<213> Homo sapiens

<400> 31

Val Leu Ser Pro Ala Asp Lys Thr Asn Val Lys Ala Ala Trp Gly Lys
1 5 10 15

Val Gly Ala His Ala Gly Glu Tyr Gly Ala Glu Ala Leu Glu Arg Met
20 25 30

Phe Leu Ser Phe Pro Thr Thr Lys Thr Tyr Phe Pro His Phe Asp Leu
35 40 45

Ser His Gly Ser Ala Gln Val Lys Gly His Gly Lys Lys Val Ala Asp
50 55 60

Ala Leu Thr Asn Ala Val Ala His Val Asp Asp Met Pro Asn Ala Leu
65 70 75 80

Ser Ala Leu Ser Asp Leu His Ala His Lys Leu Arg Val Asp Pro Val
85 90 95

Asn Phe Lys Leu Leu Ser His Cys Leu Leu Val Thr Leu Ala Ala His
100 105 110

Leu Pro Ala Glu Phe Thr Pro Ala Val His Ala Ser Leu Asp Lys Phe
115 120 125

Leu Ala Ser Val Ser Thr Val Leu Thr Ser Lys Tyr Arg
 130 135 140

<210> 32
 <211> 438
 <212> DNA
 <213> Homo sapiens

<400> 32
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 gatgaagttg gtggtgaggc cctgggcagg ctgctggttg tctacccttg gaccagagg 120
 ttctttgagt cctttgggga tctgtccact cctgatgctg ttatgggcaa ccctaaggtg 180
 aaggtcatg gcaagaaagt gctcgggtgcc tttagtgatg gcctggctca cctggacaac 240
 ctcaagggca cctttgccac actgagttag ctgcactgtg acaagctgca cgtggatcct 300
 gagaacttca ggctcctggg caacgtgctg gtctgtgtgc tggcccatca ctttggcaaa 360
 gaattcacc caccagtgc ggctgcctat cagaaagtgg tggtggtgt ggctaagtc 420
 ctagcccaca agtatcac 438

<210> 33
 <211> 146
 <212> PRT
 <213> Homo sapiens

<400> 33
 Val His Leu Thr Pro Glu Glu Lys Ser Ala Val Thr Ala Leu Trp Gly
 1 5 10 15
 Lys Val Asn Val Asp Glu Val Gly Gly Glu Ala Leu Gly Arg Leu Leu
 20 25 30
 Val Val Tyr Pro Trp Thr Gln Arg Phe Phe Glu Ser Phe Gly Asp Leu
 35 40 45
 Ser Thr Pro Asp Ala Val Met Gly Asn Pro Lys Val Lys Ala His Gly
 50 55 60
 Lys Lys Val Leu Gly Ala Phe Ser Asp Gly Leu Ala His Leu Asp Asn
 65 70 75 80
 Leu Lys Gly Thr Phe Ala Thr Leu Ser Glu Leu His Cys Asp Lys Leu
 85 90 95
 His Val Asp Pro Glu Asn Phe Arg Leu Leu Gly Asn Val Leu Val Cys
 100 105 110

Val Leu Ala His His Phe Gly Lys Glu Phe Thr Pro Pro Val Gln Ala
115 120 125

Ala Tyr Gln Lys Val Val Ala Gly Val Ala Asn Ala Leu Ala His Lys
130 135 140

Tyr His
145